

"TWISTER" HIGH INDUCTION STAMPED FACE

The "Twister" diffuser is engineered to optimize air distribution effectiveness. This next generation diffuser has a high induction, 360° swirl pattern for a superior coanda effect. It is available for a 2' x 2' (600 x 600) ceiling module with a choice of five round neck sizes.

Steel Construction – High Induction

Fixed Pattern Model TWR "Twister" Swirl Pattern **Page D101**



Model TWR



Models UNI, 5000CTD, UNI-PD

ARCHITECTURAL SQUARE

Designed with the architect in mind, the diffusers in this series are fashioned to blend in with most ceiling types in order to create the ultimate in aesthetic looks. Nailor has accomplished this while still offering a variety of diffuser designs that provide flexibility in both style, selection and engineering performance.

Flat Panel

Steel Construction –	Model UNI	Page D104
Aluminum Construction –	Model AUNI	Page D104
Steel with Ceiling Tile –	Model UNI-RC	Page D106

Downblast –

Steel Fixed Perforated –	Model UNI-PD	Page D115
Steel Adjustable –	Model UNI-AD	Page D118
Steel Round Plaque Face –	Model UNI-RP	Page D121

Ceiling Tile Slot –

Supply	Model Series 5000CTD	Page D128
Return	Model Series 5000RCTD	Page D128

Plaque Face

Steel Construction –	Model UNI2	Page D112
Aluminum Construction –	Model AUNI2	Page D112
Steel Construction –	Model 6600	Page D134

Plaque Face with Perimeter Slots

Steel Construction –	Model 66UNI	Page D139
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ROUND

Nailor's round diffusers are available in steel or aluminum construction, with adjustable or fixed patterns. Included in this series of diffusers is a 'Plaque' style for architectural ceilings and a 'Downblast' type for high ceiling areas.

Adjustable Horizontal Pattern

Steel Construction –	Model RNR	Page D143
Aluminum Construction –	Model ARNR	Page D143

Adjustable Horizontal to Vertical Pattern

Steel Construction –	Model RNRA1	Page D146
Aluminum Construction –	Model ARNRA1	Page D146

Fully Adjustable Horizontal/Vertical Pattern

Aluminum Construction –	Model 6300R	Page D148
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Plaque Face Horizontal Pattern

Steel Construction –	Model RUNI	Page D150
Aluminum Construction –	Model ARUNI	Page D150

Downblast Adjustable Horizontal/Vertical Pattern

Steel Construction –	Model RDB	Page D152
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Models RUNI, RNR, RDB

EXCLUSIVE WARRANTY FOR NAILOR STEEL GRILLES, REGISTERS AND DIFFUSERS

**LIMITED WARRANTY – SERIES 61C, 6100, 61EC, 61F, RNS, RNS2,
UNI, 4300, 6500, 7500 AND 61CC**

Nailor Industries Inc. ('Nailor') warrants to the original and each subsequent owner of a new Nailor Series Grille, Register or Ceiling Air Diffuser in the model series titled above, constructed of corrosion-resistant steel that should rust become visible on the exposed portion of any individual product covered by this agreement Nailor will replace the rusted unit. Any diffuser affected by chemicals or misuse, including, without limitation, the failure to perform reasonable and necessary maintenance, will not be covered by this warranty. This warranty is for sixty (60) months from the date of the shipment by Nailor.

This warranty gives you specific legal rights and you may also have other rights which vary from state to state.

The rusted unit will be shipped by the owner at its cost to Nailor for replacement. The cost of the replacement, including the cost of shipment to the owner, but excluding any costs for either the removal or preparation for shipment of the rusted unit and the re-installation of the replacement unit, will be borne by Nailor. A reasonable time should be allowed after shipment to Nailor for the replacement of the rusted unit.

This is the only warranty given with the purchase. Any warranties implied by law are limited to sixty (60) months from the date of shipment by Nailor. Nailor neither assumes nor authorizes any person to assume for it any other liability in connection with any diffuser covered by this agreement.

No payment or other compensation will be made for indirect or consequential damage such as, damage or injury to person or property or loss of revenue or profit which might be paid, incurred or sustained by reason of the use or inability to use a Nailor product listed above, even if such loss or damage could have been foreseen by Nailor.

Some states do not allow the exclusion of limitation of incidental or consequential damages or limitation on how long an implied warranty lasts, so the above may not apply to you.

FIXED PERFORATED DOWNBLAST DIFFUSER

- ARCHITECTURAL
- HIGH PERFORMANCE
- THEATER APPLICATIONS
- SQUARE FACE
- ROUND NECK

Models:

UNI-PD Steel



Model UNI-PD

Model 'UNI-PD' Fixed Perforated Downblast Square Ceiling Diffuser has been specially designed to provide both the unobtrusive appearance for architectural excellence and the high airflow at minimum NC levels needed in theater, auditorium and other high ceiling applications. A circular perforated aperture in the diffuser face provides both a horizontal and vertical apportion of the airflow. The horizontal portion provides a tight 360° ceiling diffusion pattern and the vertical portion provides a true and long downward projection. Model UNI-PD heavy duty ceiling diffusers are designed for effective heating and spot cooling applications where conditions and floor to ceiling heights are variable.

Designed to integrate with the popular lay-in type ceiling grid system, this diffuser offers simple installation and a highly economical alternative to the more expensive round spun downblast diffuser design.

STANDARD FEATURES:

- Engineered air diffusion patterns.
- Steel stamped shapes for uniformity.
- High neck collars for solid connection.
- Fixed inner core.
- Suitable for theaters, auditoriums, factories, warehouses, convention halls, coliseums, shopping malls and other high ceiling applications.
- 360° horizontal discharge pattern.

- Heavy gauge face plate features a hemmed edge for a professional, clean finish. Perforated face has 3/8" (10) diameter holes on 5/8" (16) staggered centers.

CONSTRUCTION MATERIAL:

Heavy gauge, corrosion-resistant steel.

FINISH OPTIONS:

AW Appliance White finish is standard. Other finishes are available.

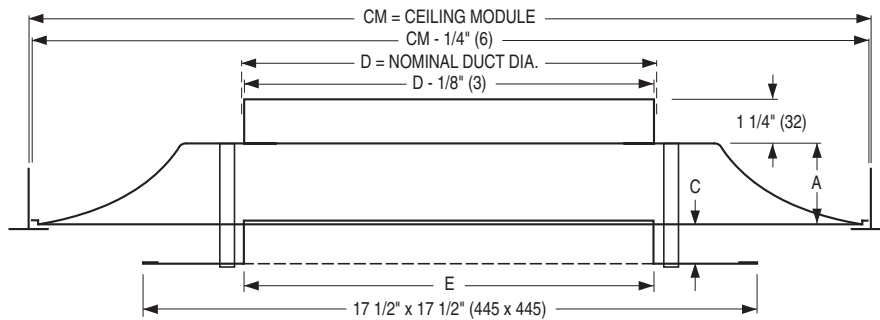
OPTIONS & ACCESSORIES:

- EX External Foil-Back Insulation (installed) -R-4.2.
 - EXB External Foil-Back Insulation (loose) -R-4.2.
 - MIB Molded Insulation Blanket – R-6.0.
 - EQT Earthquake Tabs
- For additional options and accessories; see page D255.

DIMENSIONAL DATA AND FRAME TYPES:

MODEL UNI-PD

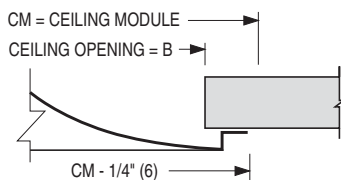
Type L Lay-in, T-Bar Frame



Dimensional Data

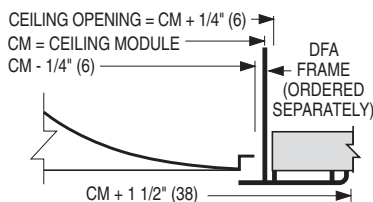
CM		Imperial Units (inches)						Metric Units (mm)					
Imperial Modules	Metric Modules	Duct Size D	E	A	B	C	F	Duct Size D	E	A	B	C	F
24 x 24	600 x 600	12, 14	11 1/4	2 5/16	22	1 3/16	24 3/4	305, 356	285	59	559	30	629

Type L Surface Mount



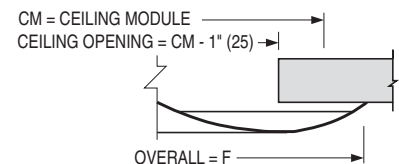
Hard duct connection recommended.

Type L Surface Mount with DFA

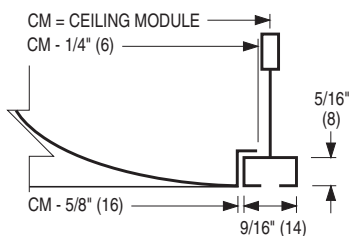


Drywall/Plaster Frame. Recommended for flexible duct and ceiling access.

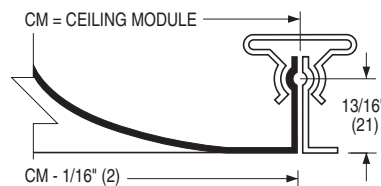
Type S Surface Mount



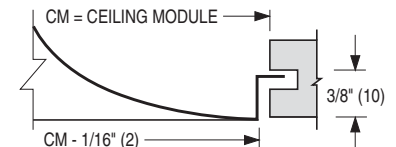
Type F Fineline®



Type M Metal Pan (Snap-in)



Type SP Spline



For one directional exposed T-Bar or fully concealed grid. One spline on two opposite sides, steel lift bracket on others.

PERFORMANCE DATA:

Models UNI-PD • 24 x 24 (600 x 600) Face Size • 4-way Blow (360° Pattern)

Nominal Neck Size	Neck Velocity, FPM	400	500	600	700	800	900	1000	1200	1400	1600
	Velocity Pressure	.010	.016	.023	.031	.040	.051	.063	.090	.122	.160
12" Dia.	Total Pressure	.018	.028	.041	.055	.072	.092	.113	.163	.221	.289
	Airflow, CFM	315	390	470	550	630	705	785	990	1100	1255
	Horizontal Throws, Ft. H	2-3-4	3-5-7	3-5-8	4-6-8	5-6-10	5-7-11	6-8-10	6-9-12	8-11-13	9-12-16
	Vertical Projections, Ft. V	6-9	8-10	8-10	9-12	10-13	12-14	15-17	16-18	17-19	20-21
	Noise Criteria	—	—	—	13	18	22	26	34	38	42
14" Dia.	Total Pressure	.023	.036	.051	.070	.092	.116	.143	.206	.280	.366
	Airflow, CFM	425	530	635	745	850	955	1060	1270	1490	1695
	Horizontal Throws, Ft. H	2-4-5	3-5-6	4-5-7	5-6-7	5-6-8	6-7-8	6-7-9	7-9-11	8-10-13	9-11-14
	Vertical Projections, Ft. V	8-11	9-12	9-13	10-14	11-15	12-16	13-17	15-19	17-21	19-23
	Noise Criteria	—	—	—	15	20	24	28	36	40	44

Performance Notes:

1. Horizontal throws are given at a terminal velocity of 150, 100 and 50 fpm under isothermal conditions.

Horizontal throws for non-isothermal air are determined by applying the following correction factors to the cataloged values:

ΔT	Factor
- 20°F clg.	x 1.20
+ 20°F htg.	x 0.85

Vertical projections are given at a terminal velocity of 50 fpm. Minimum projections are for a 20°F heating temperature differential and maximum projections are for a 20°F cooling differential.

2. Horizontal/Vertical apportion of the airflow:

12" neck approximately 60/40%.

14" neck approximately 65/35%.

3. All pressures are in inches w.g.. To obtain static pressure, subtract the velocity pressure from the total pressure.

4. Noise Criteria (NC) values are based upon 10dB room absorption, re 10⁻¹² watts. Dash (—) in space indicates an Noise Criteria of less than 10.

5. Data derived from tests conducted in accordance with ANSI/ASHRAE Standard 70 – 2006.

ADJUSTABLE DOWNBLAST DIFFUSER

- HIGH PERFORMANCE
- THEATER APPLICATIONS
- VERTICAL-TO-HORIZONTAL DISCHARGE PATTERNS
- SQUARE FACE
- ROUND NECK

Models:

UNI-AD Steel



Model UNI-AD

Model 'UNI-AD' Adjustable Downblast Square Ceiling Diffuser has been specially designed to provide both the unobtrusive appearance for architectural excellence and the high airflow at minimum NC levels needed in theater, auditorium and other high ceiling applications. Radial vanes in the adjustable face damper permit air pattern adjustment from full horizontal to approximately 50/50 horizontal/vertical. Full adjustment requires only a half turn and is easily accomplished from the floor using the ring operator and a pole (by others).

Model UNI-AD heavy duty ceiling diffusers are designed for effective heating and spot cooling applications where conditions and floor to ceiling heights are variable. At the full vertical setting, they provide a true and long downward projection. At full horizontal setting, they produce the tight ceiling pattern that is required for excellent VAV performance.

Designed to integrate with the popular lay-in type ceiling grid system, this diffuser offers simple installation and a highly economical alternative to the more expensive round spun downblast diffuser design.

STANDARD FEATURES:

- Engineered air diffusion patterns.
- Steel stamped shapes for uniformity.
- High neck collars for solid connection.
- Fixed inner core.
- Suitable for theaters, auditoriums, factories, warehouses, convention halls, coliseums, shopping malls and other high ceiling applications.
- 360° horizontal discharge pattern.
- 0 – 50% airflow vertical projection capability.

- Ring operator can be adjusted using a pole.
- Heavy gauge face plate features a hemmed edge for a professional, clean finish.

CONSTRUCTION MATERIAL:

Heavy gauge, corrosion-resistant steel.

FINISH OPTIONS:

AW Appliance White finish is standard. Other finishes are available.

OPTIONS & ACCESSORIES:

- EX External Foil-Back Insulation (installed) -R-4.2.
 - EXB External Foil-Back Insulation (loose) -R-4.2.
 - MIB Molded Insulation Blanket R-6.0.
 - EQT Earthquake Tabs
- For additional options and accessories; see page D255.

DIMENSIONAL DATA AND FRAME TYPES:

MODEL UNI-AD

Type L Lay-in, T-Bar Frame

CM = CEILING MODULE
 CM - 1/4" (6)
 D = NOMINAL DUCT DIA.
 D - 1/8" (3)
 1 1/4" (32)
 ADJUSTABLE DOWNBLAST DAMPER
 RING OPERATOR
 1 1/4" (32)
 E
 17 1/2" x 17 1/2" (445 x 445)

Dimensional Data

CM		Imperial Units (inches)					Metric Units (mm)						
Imperial Modules	Metric Modules	Duct Size D	E	A	B	C	F	Duct Size D	E	A	B	C	F
24 x 24	600 x 600	12, 14	8, 10	2 5/16	22	1 3/16	24 3/4	305, 356	203, 254	59	559	30	629

D
CEILING DIFFUSERS

Type L Surface Mount

CM = CEILING MODULE
 CEILING OPENING = B
 CM - 1/4" (6)

Hard duct connection recommended.

Type L Surface Mount with DFA

CEILING OPENING = CM + 1/4" (6)
 CM = CEILING MODULE
 CM - 1/4" (6)
 DFA FRAME (ORDERED SEPARATELY)
 CM + 1 1/2" (38)

Drywall/Plaster Frame. Recommended for flexible duct and ceiling access.

Type S Surface Mount

CM = CEILING MODULE
 CEILING OPENING = CM - 1" (25)
 OVERALL = F

Type F Fineline®

CM = CEILING MODULE
 CM - 1/4" (6)
 5/16" (8)
 CM - 5/8" (16)
 9/16" (14)

Type M Metal Pan (Snap-in)
 Steel models only

CM = CEILING MODULE
 CM - 1/16" (2)
 13/16" (21)

Type SP Spline

CM = CEILING MODULE
 CM - 1/16" (2)
 3/8" (10)

For one directional exposed T-Bar or fully concealed grid. One spline on two opposite sides, steel lift bracket on others.

Fineline® is a registered trademark of USG Interiors Inc.

PERFORMANCE DATA:

Models UNI-AD • 24 x 24 (600 x 600) Face Size • 4-way Blow (360° Pattern)

Nominal Neck Size	Neck Velocity, FPM	400	500	600	700	800	900	1000	1200	1400	1600
	Velocity Pressure	.010	.016	.023	.031	.040	.051	.063	.090	.122	.160
12" Dia.	Total Pressure	.040	.063	.090	.123	.161	.203	.251	.361	.492	.643
	Airflow, CFM	315	390	470	550	630	705	785	940	1100	1255
	Horizontal Throws, Ft. H	5	7	8	9	11	12	14	15	17	18
	Vertical Projections, Ft. V	3-13	4-16	5-20	7-22	8-28	8-32	9-34	10-36	15-59	19-62
	Noise Criteria	—	—	13	16	21	25	29	35	41	46
14" Dia.	Total Pressure	.054	.083	.120	.163	.214	.270	.334	.481	.655	.855
	Airflow, CFM	425	530	635	745	850	955	1060	1270	1490	1695
	Horizontal Throws, Ft. H	7	9	11	13	15	17	19	21	22	24
	Vertical Projections, Ft. V	5-14	5-16	6-20	6-24	8-30	9-32	10-34	14-57	20-65	25-75
	Noise Criteria	—	—	14	18	23	27	30	37	43	48

Performance Notes:

1. Horizontal throws are given at a terminal velocity of 50 fpm and a 20°F cooling temperature differential.

Vertical projections are given at a terminal velocity of 50 fpm. Minimum projections are for a 40°F heating temperature differential and maximum projections are for a 20°F cooling differential.

2. All pressures are in inches w.g.. To obtain static pressure, subtract the velocity pressure from the total pressure.

3. Noise Criteria (NC) values are based upon 10dB room absorption, re 10⁻¹² watts. Noise Criteria values shown are for the horizontal discharge pattern. For downblast (damper open), deduct 5. Dash (—) in space indicates an Noise Criteria of less than 10.

4. Data derived from tests conducted in accordance with ANSI/ASHRAE Standard 70 – 2006.

HOW TO ORDER

STAMPED SQUARE CEILING DIFFUSERS

MODEL SERIES RNS, ARNS, UNI, AUNI AND TWR

EXAMPLE: RNS - 08 - 24 x 24 - L - AW - -

1. Models

Louvered Face

- RNS Steel, Fixed, 4 Cone
- RNS3 Steel, Fixed, 3 Cone
- RNS2 Steel, Fixed, 2 Cone
- RNSA1 Steel, Adjustable, Sliding Type
- RNSA2 Steel, Adjustable, Rotating Type

- ARNS Aluminum, Fixed
- ARNS3 Aluminum, Fixed, 3 Cone, Non-removable
- ARNSA Aluminum, Adjustable

Architectural

- UNI Steel, Concealed Bracketry
- UNI2 Steel, Corner Posts
- UNI-RP Steel, Round Plaque
- AUNI Aluminum, Concealed Bracketry
- AUNI2 Aluminum, Four Corner Posts

Downblast

- UNI-AD Adjustable
- UNI-PD Fixed, Perforated

High Induction

- TWR Twister

2. Neck Size (inches)

- 04, 05, 06, 07, 08, 10, 12, 14, 15

3. Ceiling Module Size

Imperial (inches)

- 12 x 12, 20 x 20, 24 x 12, 24 x 24 (default), 30 x 30, 48 x 24

Metric (mm)

- 300 x 300, 500 x 500, 600 x 300, 600 x 600, 750 x 750, 1200 x 600

4. Frame Type

- L Lay-in T-Bar/Surface Mount
- S Surface Mount
- PL Panel Lay-in T-Bar
- SP Spline
- M Metal Pan
- F Fineline®
- TL Tegular Lay-in

5. Finish

- AW Appliance White (default)
- AL Aluminum
- BK Black
- BW British White
- MI Mill
- PC Prime Coat Paint
- PPA Paint Prepared Aluminum
- SP Special Custom Color

OPTIONS & ACCESSORIES:

(Default is none unless noted otherwise)

6. MRI Option (AUNI2 only)*

- MRI MRI Compatible (100% Aluminum)

7. Damper

- 4250 Radial Sliding, 6" - 14"
- 4275 Radial Opposed Blade, 5" - 24"
- 4675 Butterfly, 6" - 14"

8. Quadrant Blanks

- QB3 3-way blow
- QB2 2-way opposite blow
- QC2 2-way corner blow
- QB1 1-way blow

9. External Insulation

- EX Foil-back (installed), R-4.2
- EXB Foil-back (loose), R-4.2
- MIB Molded Insulation Blanket R-6.0

10. Extended Inlet Collar **

- EIC Extended Inlet Collar (2.25") with bead

11. Earthquake Tabs

- EQT Earthquake Tabs

OTHER OPTIONS & ACCESSORIES:

Ceiling Tile Option:

- (UNI, AUNI only)
- RC Retaining Channel only
- RCCF Retaining Channel + Tile Cut & Fitted

Air Balancing Devices

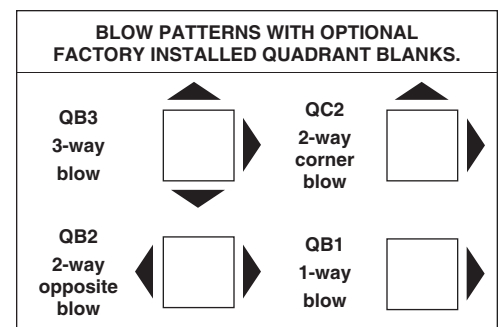
- (order separately)
- EGR Equalizing Grid
- DEGR Damper/Equalizing Grid

Notes:

1. Consult price pages as to limitations of module, frame type, neck size and accessories combinations.
2. Face size 20" x 20" (500 x 500) is available only in Frame Type L.
3. MIB Molded Insulation Blanket is not available on Models RNSA1, RNSA2, and ARNSA.
4. Butterfly damper (4675) is not compatible with Model RNSA.
5. PPA Finish is available on Aluminum models only.
6. *Dampers are not available on Model AUNI2 when MRI option is selected.
7. **Extended Inlet Collar is available for steel models RNS, RNS3, UNI and UNI2 only.

D
CEILING DIFFUSERS

NOMINAL ROUND NECK (DUCT) SIZE	FACE SIZE	CEILING MODULE
4, 5, 6, 7, 8	12 x 12	12 x 12 20 x 20 24 x 12 24 x 24
6, 8, 10	20 x 20	20 x 20
6, 8, 10, 12, 14, 15	24 x 24	24 x 24 30 x 30 48 x 24



HOW TO SPECIFY

SUGGESTED SPECIFICATION:

RNS3 and ARNS3 – Steel or Aluminum Construction

Furnish and install **Nailor Model** (select one) **RNS3** (steel) or **ARNS3** (aluminum) **Stamped Square Ceiling Diffusers** of the sizes and capacities as shown on the plans and air distribution schedules. Model RNS3 shall be manufactured from corrosion-resistant steel and have three die-formed concentric cones in all sizes. Model ARNS3 shall be manufactured from aluminum with corrosion-resistant steel bracketry. The inner cone assembly is to be non-removable. The diffuser shall have a removable plug for screwdriver adjustment of the optional damper without removing the inner core. The finish shall be AW Appliance White (optional finishes are available).

The manufacturer shall provide published performance data for the diffuser, which shall be tested in accordance with ANSI/ASHRAE Standard 70-2006.

SUGGESTED SPECIFICATION:

RNS2 – Steel Construction

Furnish and install **Nailor Model RNS2 Stamped Square Ceiling Diffusers** of the sizes and capacities as shown on the plans and air distribution schedules. The diffuser shall be manufactured from corrosion-resistant steel and incorporate two die-formed concentric cones. The diffuser shall have a removable plug for screwdriver adjustment of the optional damper without removing the inner core. The finish shall be AW Appliance White (optional finishes are available).

The manufacturer shall provide published performance data for the diffuser, which shall be tested in accordance with ANSI/ASHRAE Standard 70-2006.

SUGGESTED SPECIFICATION:

TWR 'Twister' – Steel Construction

Furnish and install **Nailor Model TWR 'Twister' Ceiling Swirl Diffusers** of the sizes and capacities as shown on the plans and air distribution schedules. The diffuser shall be manufactured from heavy gauge corrosion-resistant steel. Radial induction vanes shall be one-piece stamped construction. The diffuser is to be sizes to suit a 24" x 24" (600 x 600) ceiling suspension system. The round duct connection collar shall be an integral part of the diffuser assembly and be not less than 1 1/4" (32) high. The diffuser shall have a removable plug for screwdriver adjustment of the optional damper without removing the inner core. The finish shall be AW Appliance White (optional finishes are available).

The manufacturer shall provide published performance data for the diffuser, which shall be tested in accordance with ANSI/ASHRAE Standard 70-2006.

SUGGESTED SPECIFICATION:

UNI – Steel Construction

Furnish and install **Nailor Model UNI Square Architectural Ceiling Diffusers** of the sizes and capacities as shown on the plans and air distribution schedules. The diffuser shall have a corrosion-resistant steel, stamped outer cone. The inner core shall have a plaque style face. The face shall be double skinned with a hemmed edge. The inner core assembly is to be removable using a spring clip arrangement that permits quick, easy installation and removal. The finish shall be AW Appliance White (optional finishes are available).

The manufacturer shall provide published performance data for the diffuser, which shall be tested in accordance with ANSI/ASHRAE Standard 70-2006.

AUNI – Aluminum Construction

Furnish and install **Nailor Model AUNI Square Architectural Ceiling Diffusers** of the sizes and capacities as shown on the plans and air distribution schedules. The diffuser shall have a heavy gauge aluminum, stamped outer cone. The inner core shall have a plaque style face. The face shall be double skinned with a hemmed edge. The inner core assembly is to be removable using a spring clip arrangement that permits quick, easy installation and removal. The finish shall be AW Appliance White (optional finishes are available).

The manufacturer shall provide published performance data for the diffuser, which shall be tested in accordance with ANSI/ASHRAE Standard 70-2006.

PRODUCT OVERVIEW OPTIONS AND ACCESSORIES FOR CEILING DIFFUSERS

MOUNTING FRAMES

- Surface mount adapter frames for plaster and sheet rock ceilings are available in steel and aluminum. They simplify installation, save time and allow ceiling plenum access.

OPTIONS

- A selection of optional items that are available on ceiling diffusers.

FINISHES

- Selection of standard and non-standard finishes to choose from.
- Baked enamel paint in custom colors to suit architect.

AIR BALANCING DEVICES

- Dampers for round and square necks.
- Equalizing grids.
- Volume extractors.

Effective air balancing of an HVAC System requires the correct selection, specification and installation of the right product to suit the system design.

Nailor offers a comprehensive range of models and options to cover all applications.

Nailor balancing devices are:

- Easy to select and specify. Many items can be ordered or specified as diffuser accessories.
- Designed to offer a smooth, accurate and predictable response during adjustment for precise air metering.
- Designed to provide quick access and adjustment.
- Engineered with attention to optimizing airflow, in order to minimize noise, turbulence and pressure drop.

Model DFA
Drywall/Plaster Frame
Surface Mount
Ceiling Adapter



Model 4275
Radial Opposed
Blade Damper



Model 4250
Radial Sliding Blade Damper



Model 4675
Butterfly Damper



Model OBD
Opposed Blade Damper
Steel, Neck Mount



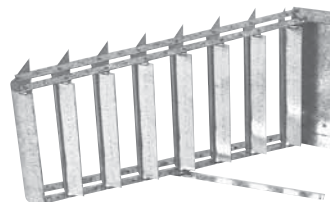
Model OBDD
Opposed Blade Damper
Steel, Duct Mount



Model EGR
Equalizing Grid



Model DEGR
Damper with Equalizing Grid



Model EX-1
Volume Extractor

Mounting Frames

DFS (Steel), DFA (Aluminum) Drywall/Plaster Frame

The DF Series are for mounting in finished drywall or plaster ceilings to accept any standard lay-in type grille, register, diffuser or other ceiling component. Installation of the air outlet is as simple as inserting them in a standard lay-in T-Bar type ceiling system.

The DF Series simplifies and reduces installation time compared with surface mount type diffusers. This is especially true where flexible duct is utilized.

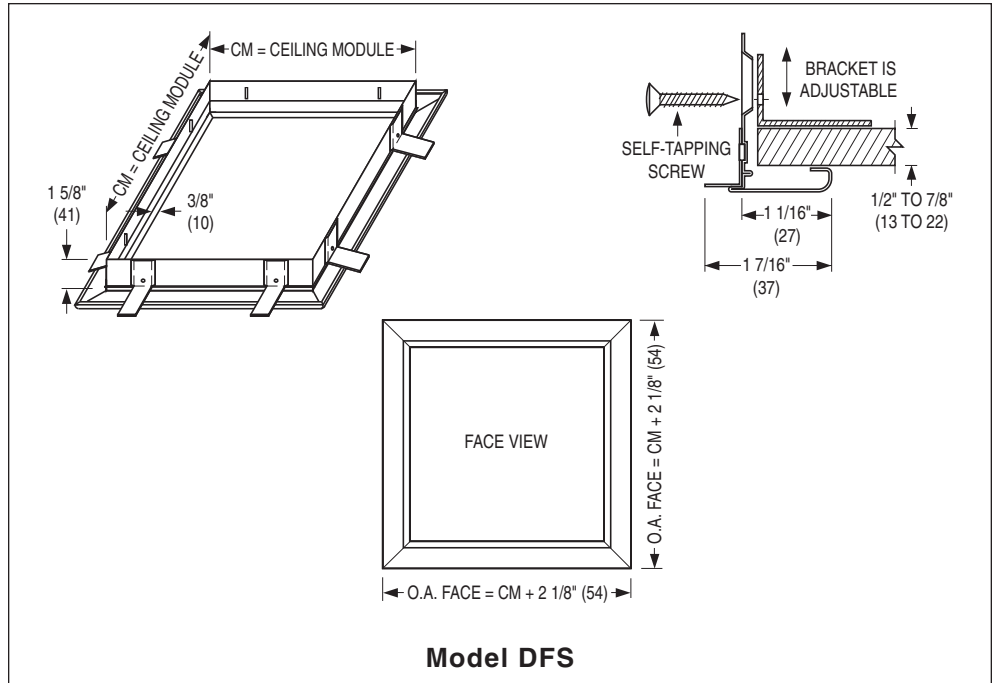
A major benefit is that the DF Series allows access to the ceiling plenum space above for maintenance purposes without the need for separate access doors. The finished appearance is professional and aesthetically pleasing.

Standard Finish: AW Appliance White. Other finishes are available.

Model DFS is installed quickly and easily using adjustable fastening angle brackets which adapt to various ceiling thicknesses. Frames are roll-formed corrosion-resistant steel with staked and mitered corners.

IMPERIAL MODULES		METRIC MODULES
Imperial Units (inches)	S.I. Units (mm)	S.I. Units (mm)
12 x 12	305 x 305	300 x 300
16 x 16	406 x 406	400 x 400
20 x 20	508 x 508	500 x 500
24 x 12	610 x 305	600 x 300
24 x 24	610 x 610	600 x 600

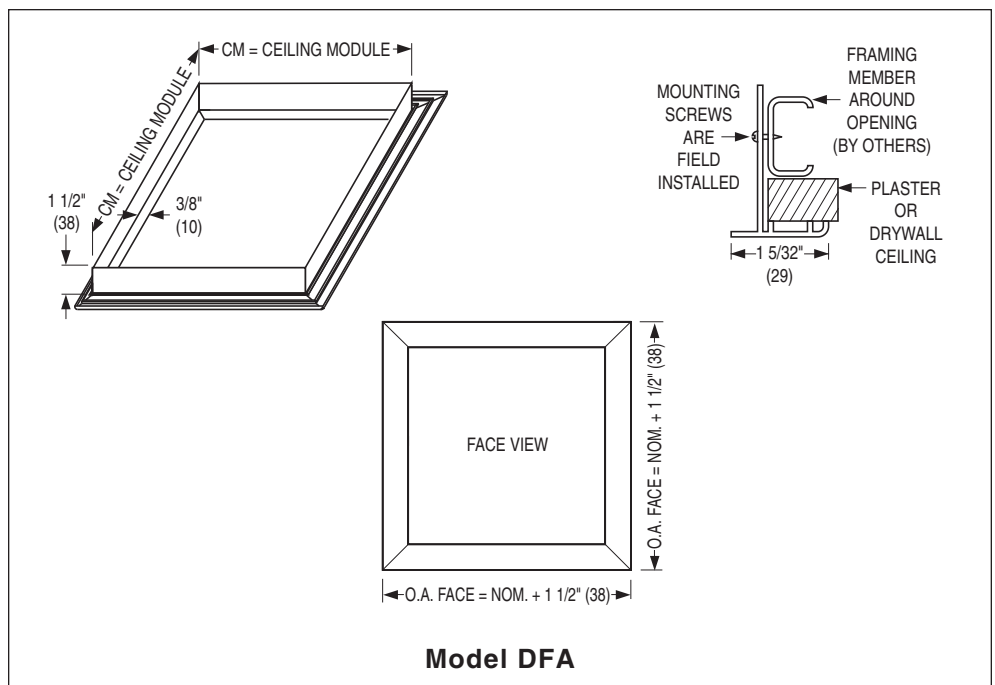
Ceiling opening = CM + 1/4" (6)



Model DFA requires framing of the ceiling opening with 'C' channel or wood studs for attachment with mounting screws (by others).

IMPERIAL MODULES		METRIC MODULES
Imperial Units (inches)	S.I. Units (mm)	S.I. Units (mm)
12 x 12	305 x 305	300 x 300
16 x 16	406 x 406	400 x 400
20 x 20	508 x 508	500 x 500
24 x 12	610 x 305	600 x 300
24 x 24	610 x 610	600 x 600
36 x 24	914 x 610	900 x 600
48 x 12	1219 x 305	1200 x 300
48 x 24	1219 x 1219	1200 x 600
60 x 12	1524 x 305	1500 x 300

Ceiling opening = CM + 1/4" (6)



Options and Finishes

OPTIONS:

EQT Earthquake Tabs

Earthquake (seismic) retaining safety tabs are available; factory installed on diffusers when required by local building code that units be independently restrained and safety wired to supporting structure.

SC Safety Chain

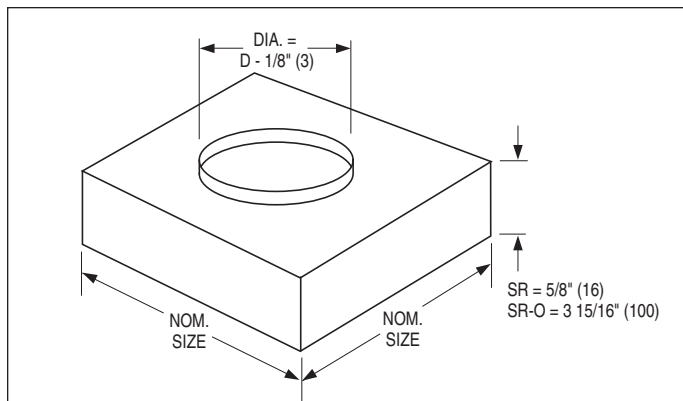
An optional safety chain is available on all of Nailor's round ceiling diffusers.

GK Foam Gaskets

Foam gasket is available on a selection of surface mount diffusers.

SR Square to Round Transition Collar

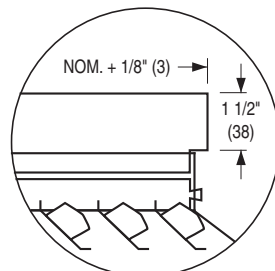
Transition collars are for use on Nailor square neck diffusers where a round duct connection is required. Round necks are sized for flexible or hard duct connection. SR's are shipped loose for field installation and are supplied with barbed S clips.



Square Neck Size (inches)	Round Neck Size D (inches)
6 x 6	4, 5, 6
8 x 8	4, 5, 6, 7, 8
9 x 9	6, 7, 8, 9
10 x 10	6, 7, 8, 9, 10
12 x 12	6, 8, 9, 10, 12
14 x 14	6, 8, 9, 10, 12, 14
15 x 15	6, 8, 10, 12, 14, 15
16 x 16	6, 8, 10, 12, 14, 15, 16
18 x 18	6, 8, 10, 12, 14, 15, 16, 18
20 x 20	6, 8, 10, 12, 14, 15, 16, 18, 20
21 x 21	6, 8, 10, 12, 14, 15, 16, 18, 20
22 x 22	6, 8, 10, 12, 14, 16, 18, 20
24 x 24	6, 8, 10, 12, 14, 15, 16, 18, 20, 24

ONA Offset Neck Adaptor

Fits outside duct (if a damper is required; order separately for remote mount. See Model OBDD).



EXTERNAL FOIL BACK INSULATION

EX External Insulation Blanket - Factory Installed

An optional 1 1/2" thick foil back insulation is available installed on a majority of Nailor ceiling diffusers. The insulation has an R value of 4.2.

EXB External Insulation Blanket - Ships Loose

This insulation is the same as above but is shipped loose for field installation.

MIB Molded Insulation Blanket - Factory Installed

The molded insulation is available as an option on various 24" x 24" square diffusers. The insulation has an R value of 6.0.

FINISHES:

AW Appliance White (standard)

A white finish that is currently the industry standard. Closely matches standard finishes supplied by the majority of T-Bar ceiling system manufacturers. (No additional cost).

AL Aluminum

Contains suspended metal particles to give the appearance of a silver grey metallic or anodized finish. (No additional cost).

BW British White

Matches most white ceiling tiles. (No additional cost)

BK Black

This black has a matte finish. (Additional cost)

BA Black Interior/Appliance White Face

Optional on perforated diffusers. AW Appliance White is applied on the perforated face and BK Black is applied on the interior of the backpan for a discreet appearance. (No additional cost)

SP Special

The Nailor range of diffusers are available in any color for special architectural consideration. Custom colors are individually mixed to match customer supplied samples. (Additional cost)

ALSO AVAILABLE:

MI Mill Finish

(No additional cost).

PPA Paint Prepared Aluminum (Washed only)

Aluminum models only. (No additional cost).

PC Prime Coat Paint

(Additional cost).

Air Balancing Devices

Radial Opposed Blade Damper

A unique method of controlling volume through a diffuser providing premium design quality and performance. The multi-blade perimeter design offers true radial flow at any setting.

A screwdriver slot, accessible through the diffuser, requires only a half turn to adjust from fully closed to fully open. The damper is designed to fit directly on the neck of the diffuser. Simple, convenient and accurate installation and operation.

Available with an optional operator arm. **Model 4275-OA** allows damper adjustment on the **UNI Diffusers** without removing the inner cone assembly.

Model 4275

	Nominal size (inches)							Nominal Size (mm)								
	5	6	8	10	12	14	15	16	127	152	203	254	305	356	381	406
A	4 7/8	5 7/8	7 7/8	9 7/8	11 7/8	13 7/8	14 7/8	15 7/8	124	149	200	251	302	352	378	403
B	1 1/8	1 5/8	2 1/2	2 1/4	2 7/8	3 3/8	3 3/4	4 3/8	29	41	64	57	73	86	95	111
C	1 5/8			2 1/2				41				64				

Radial Sliding Blade Damper

The **Model 4250** is a neck mounted radial sliding blade damper used in round neck diffuser applications to provide fine volume control. Gang operated radial blades slide at right angles to the duct with minimal protrusion above the diffuser neck; allowing the damper to work effectively in flexible duct applications.

Available in sizes 6", 8", 10", 12" and 14" (152, 203, 254, 305 and 356).

Model 4250

Butterfly Damper

The **Model 4675 Butterfly Damper** is an economical damper for volume balancing in round neck diffusers. Adjustable friction pivots hold the blades at the required setting. Adjusted from the face of the diffuser.

Not recommended for use with flexible duct.

Model 4675

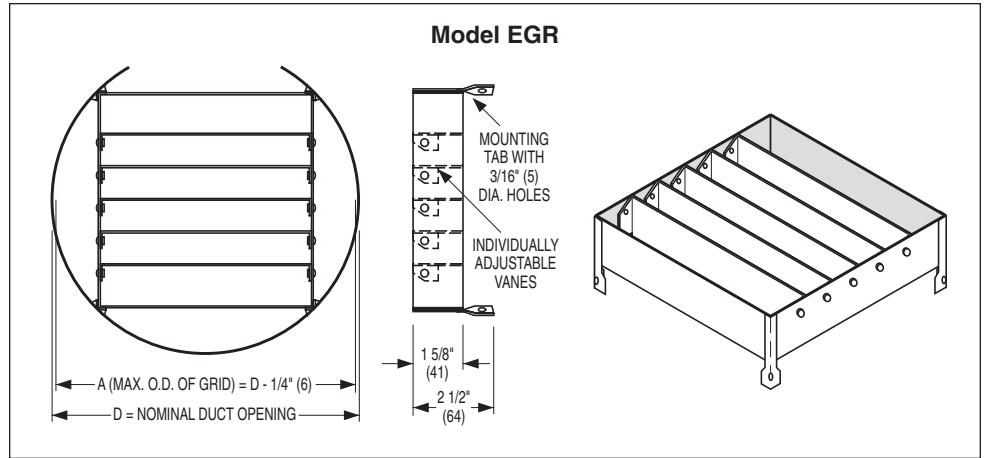
	Nominal Size (inches)					Nominal size (mm)				
	6	8	10	12	14	152	203	254	305	356
A	5 7/8	7 7/8	9 7/8	11 7/8	13 7/8	149	200	251	302	352
B	2 1/2	3 1/2	4 1/2	5 1/2	6 1/2	64	89	114	140	165

Air Balancing and Directional Control Devices

Equalizing Grid for Round Necks

The **Model EGR** is a duct mounted grid that equalizes the airflow into the branch duct or diffuser neck and provides directional control. They are shipped loose for field installation. The individually adjusted vanes are friction pivoted to hold the desired setting.

Recommended method of installation is flush with the take-off collar and with the vanes perpendicular to the direction of the approaching airflow.

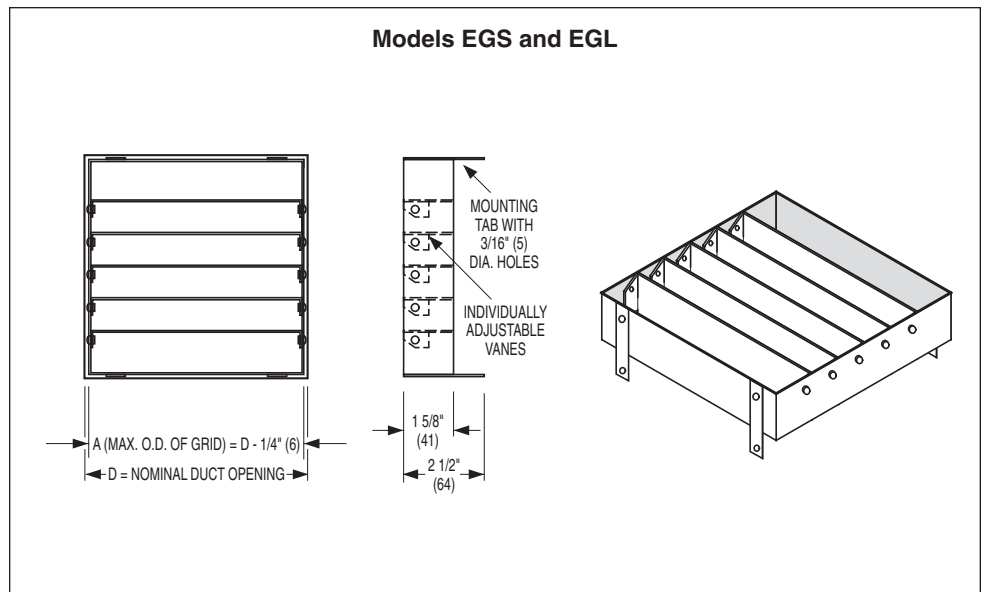


Equalizing Grid for Square and Rectangular Necks

The **Models EGS and EGL** are duct mounted grids that equalize the airflow into the branch duct or diffuser neck and provide directional control. They are shipped loose for field installation. The individually adjusted vanes are friction pivoted to hold the desired setting.

Recommended method of installation is flush with the take-off collar and with the vanes perpendicular to the direction of the approaching airflow.

The suffix 'S' or 'L' indicates blades are parallel to the short or long dimension.



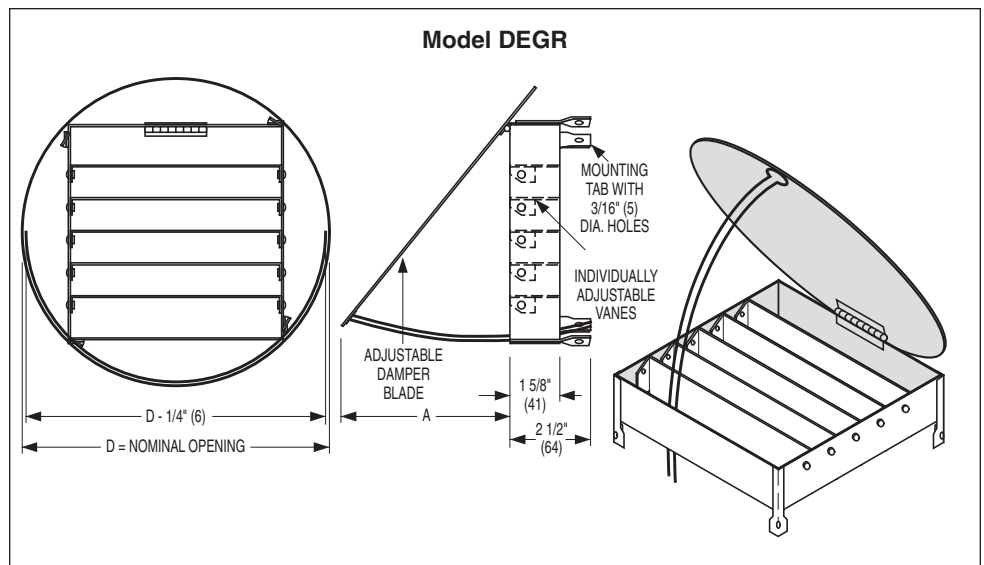
Damper with Equalizing Grid for Round Necks

The **Model DEGR** is a duct mounted combination damper with equalizing grid.

It performs as a volume extractor with dampering to near shut-off as well as equalizing the airflow into the branch duct or diffuser neck and providing directional control.

The individual adjustable vanes are friction pivoted to hold the desired setting.

Damper blade may be adjusted to any angle and locked in position with adjusting wires under screw heads.



Air Balancing and Directional Control Devices

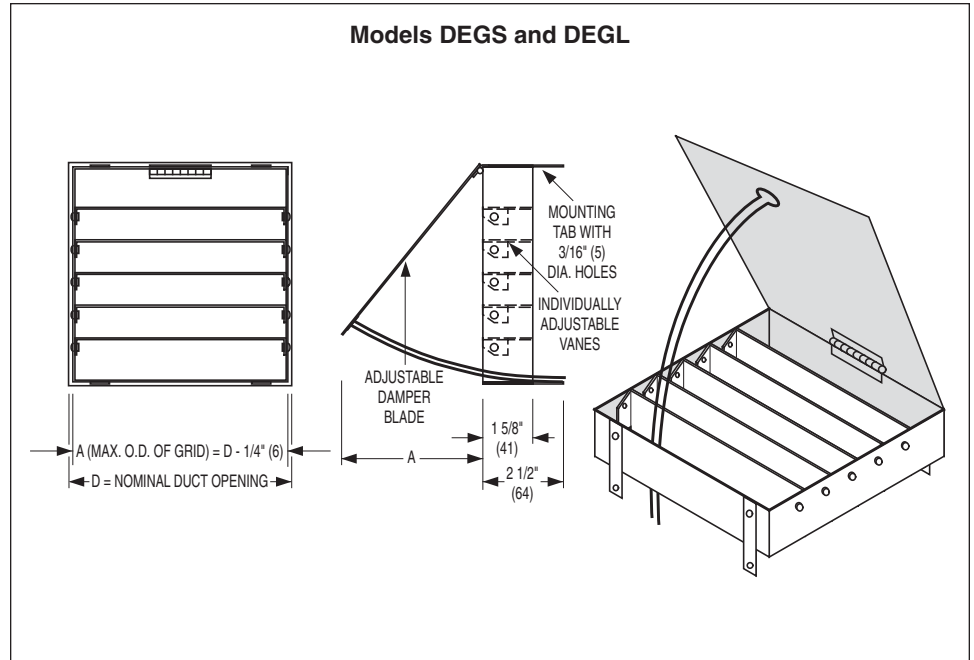
Damper with Equalizing Grid for Square and Rectangular Necks

The **Models DEGS** and **DEGL** are duct mounted combination dampers with equalizing grids. They perform as a volume extractor with dampering to near shut-off as well as equalizing the airflow into the branch duct or diffuser neck and providing directional control.

The individual adjustable vanes are friction pivoted to hold the desired setting.

Damper blade may be adjusted to any angle and locked in position with adjusting wires under screw heads.

The suffix 'S' or 'L' indicates blades are parallel to the short or long dimension.



D
CEILING DIFFUSERS

Volume Extractors

MODEL SERIES

EX Blades on 2" centers

EXD Blades on 1" centers

The **Model Series EX Volume Extractors** uniformly divert air from the main duct into the branch take-off and across the face of a grille or diffuser. Gang-operated parallel blades available on 2" (51) or 1" (25) centers pivot from full open to full closed with blades overlapping for shut-off. The curved blade design improves airflow by reducing turbulence, thereby reducing noise and pressure drop.

Specify or order: Length x Width. (Length is first dimension. Blades are parallel to width, second dimension).

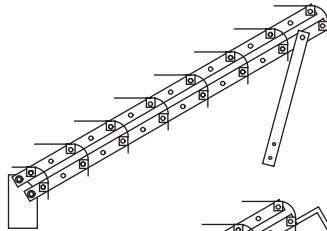
FEATURES:

- Material: Galvanized steel.
- Minimum size: 6" x 4" (152 x 102).
- Maximum size: 36" x 36" (914 x 914).

Operator Types

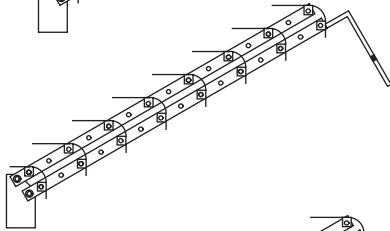
EX/EXD-1

Standard unit with adjusting strap.



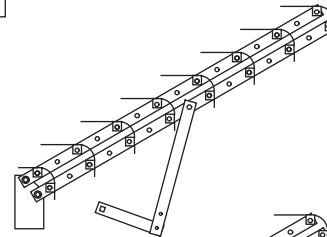
EX/EXD-1-R

Rod operator for external operation.



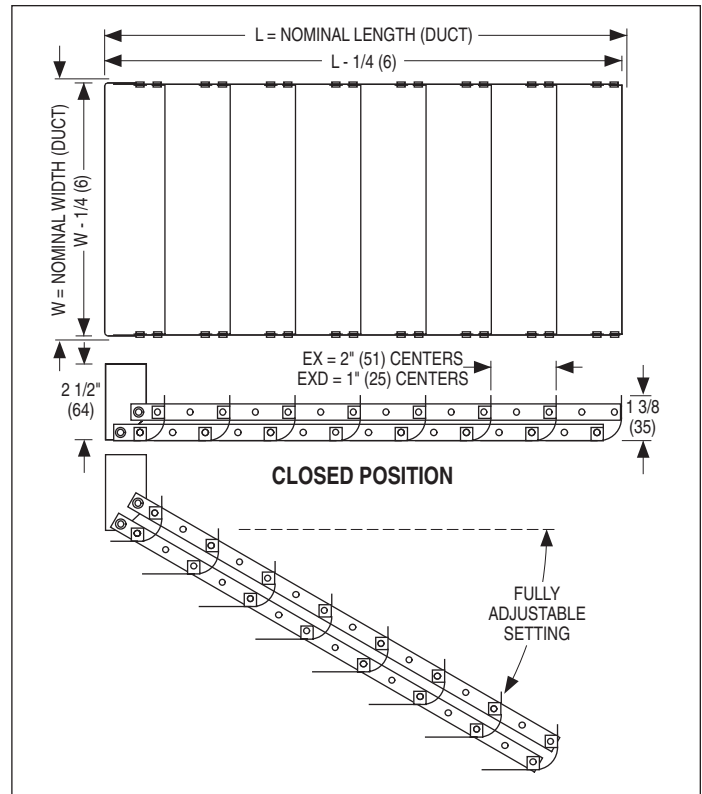
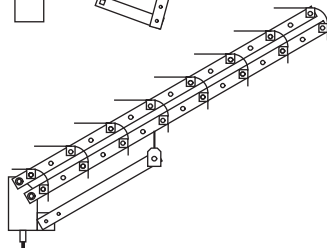
EX/EXD-2

Linkage with 7/16" (11) square hole (2 per unit). Remote operator (eg. Young Regulator #1) by others.



EX/EXD-3

Screw gear operator. Adjusts with 3/16" (5) wrench (by others).



Optional Accessories

RLD

Locking device for Models **EX/EXD-1-R**.

